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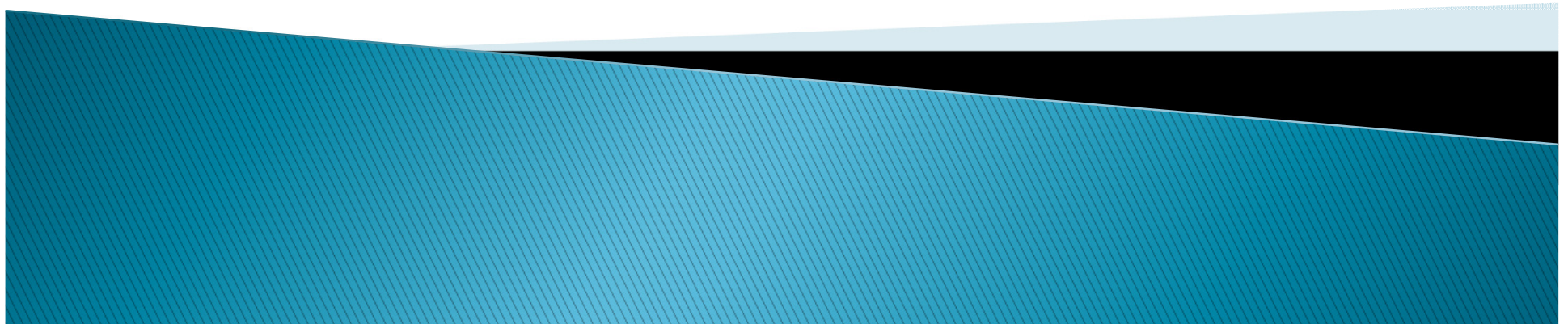
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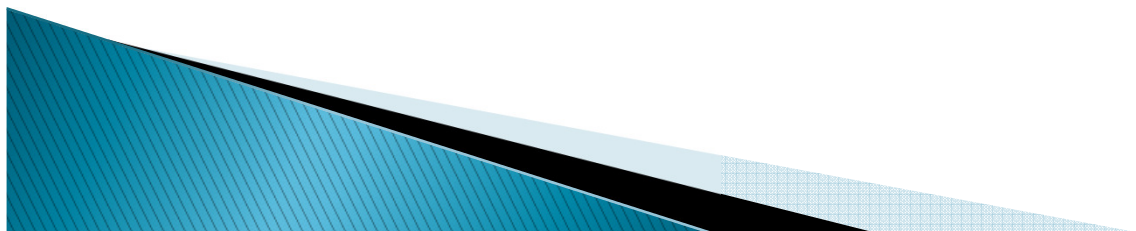
Achieving International Consensus for the Prevention of Orthopaedic Wound Blistering; Results of a Delphi Survey

Dr Karen Ousey
University of Huddersfield



Acknowledgments

- ▶ Thanks to Molnlycke Healthcare for providing a non restrictive educational grant
- ▶ All respondents to the Delphi



Searching the literature

- ▶ A standard systematic search of the literature returned 137 articles related to wounds and healing
- ▶ Cochrane Library; MEDLINE (1950 to June 2011); EMBASE (1974 to June 2011); CINAHL (1982 to June 2011)
- ▶ Blind, two person peer review of the abstracts

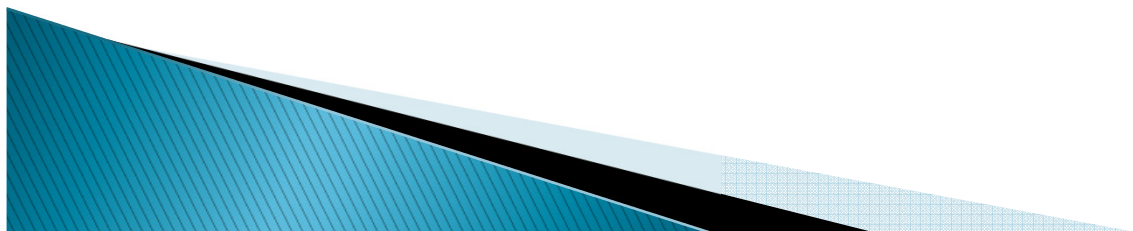


Literature Review

- ▶ Key words

- *Wound blistering*
- *Orthopaedics*
- *Post operative.*

- ▶ 9 identified to have direct relevance to wound blisters and prevention and/or treatment



Causes of Wound Blistering

- ▶ Movement of the wound site
- ▶ Choice of dressing
- ▶ Tape use
- ▶ Age
- ▶ Gender
- ▶ Type of incision
- ▶ Medications
- ▶ Co-morbidity (Tustanowski ¹⁾)

Literature

- ▶ Polatsch et al. retrospective audit from patient's case notes, who had undergone surgery for hip fracture.
- ▶ Their incidence of tape-related blisters was 21.4%
- ▶ Jester et al (2000) – audit of knee and hip arthroplasty patients, a prevalence of 13% for post-operative blisters
- ▶ Gupta et al ² examined 100 post-operative hip and knee surgery patients and established incidence of blisters at approximately 20%.



Collins (2011)

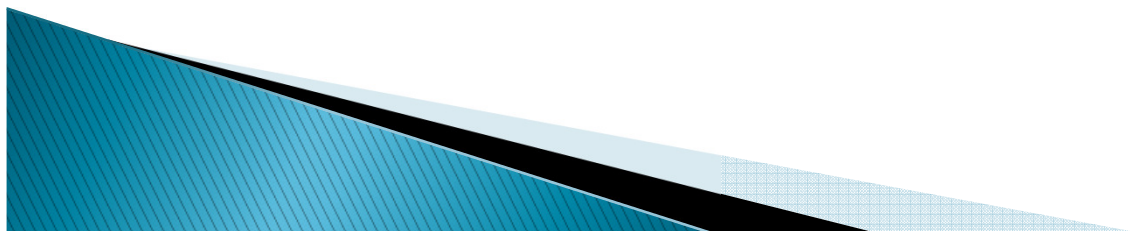
- ▶ No consistency in the treatment and dressing of post-operative orthopaedic wounds, with no one particular set of guidelines or dressing choice applicable with a perceived distinct gain.

Effects of Blistering

- ▶ In patient stays in hospital could be lengthened
- ▶ Costs increase
- ▶ Risk of infection
- ▶ Morbidity/ mortality rates can be adversely affected

Delphi Group

- ▶ Purposive sample
 - Orthopaedic nurses
 - TVNs
 - Orthopaedic consultants
- ▶ 17 participants were invited from England, Wales, Ireland, Scotland, Scandinavia, India, Australia and the USA
- ▶ 17 people invited 13 agreed to be involved.

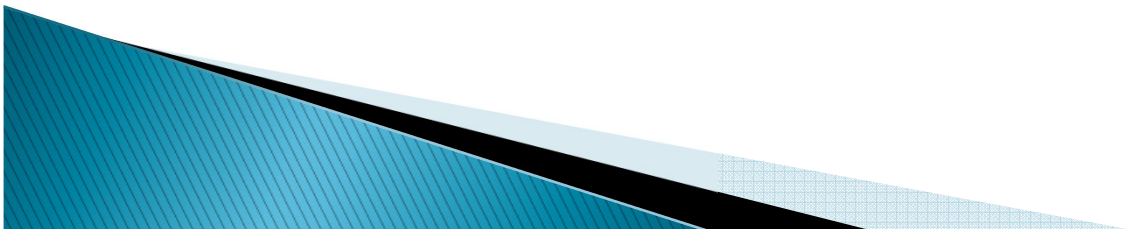


Causes of Wound Blistering

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- ▶ Gender
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- ▶ Medications
- ▶ Co-morbidity
(Tustanowski, 2009)

Results of Delphi

- ▶ The mean proportion of wound blistering across all institutions was 15.5% (range 1 – 55%)
- ▶ Literature search: 13% – 24%



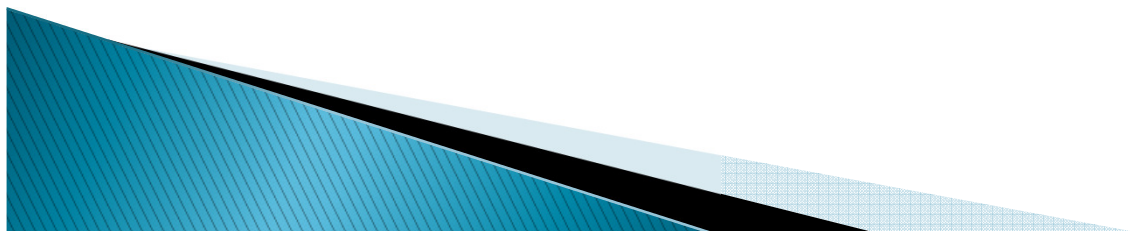
Incidence of wound blistering following total joint replacement surgery

Event	Annual frequency (mean)	Annual frequency (range)
Knee replacements	298	42 – 700
Hip replacements	305	100–500



Dressings Used

Wound dressing	Proportion of total use
Mepilex	49.3%
Tegaderm	21.5%
Mepore	0.4%
Opsite	26.0%
Aquacel	2.8%



Consequences of wound blistering (out of 60)

Characteristic	Score
Choice of dressings is important	56
Post-operative blistering is a problem	48
Post-operative blistering leads to longer hospital stays	46
Blistering main reason for nurse to visit patient on discharge	34
Blistering leads to wound infection	36
Blistering leads to increased pain	52
Blistering associated with macerated skin	45
Blistering associated with reduced mobility	41



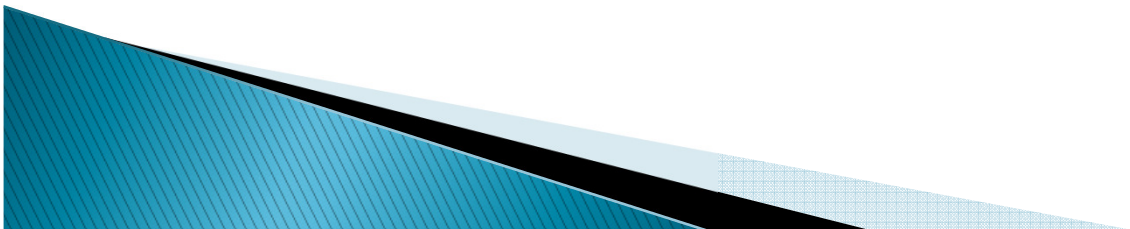
What are the characteristics of an ideal wound dressing?

- ▶ Ability to conform to the wound
- ▶ Easy to apply
- ▶ Allow for swelling
- ▶ Easy to remove
- ▶ Minimise pain on removal



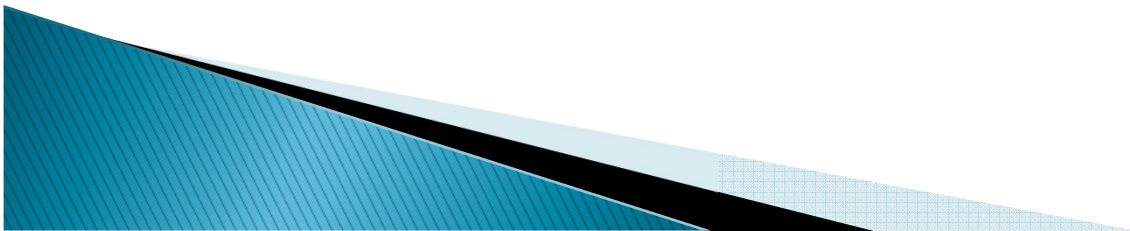
Who should assess the wound and prescribe appropriate wound dressing?

- ▶ 4 respondents – nursing staff
- ▶ 2 respondents – doctor or surgeon.
- ▶ 3 respondents – doctor/surgeon or a member of the nursing staff.
- ▶ 3 respondents did not provide a response to this question.

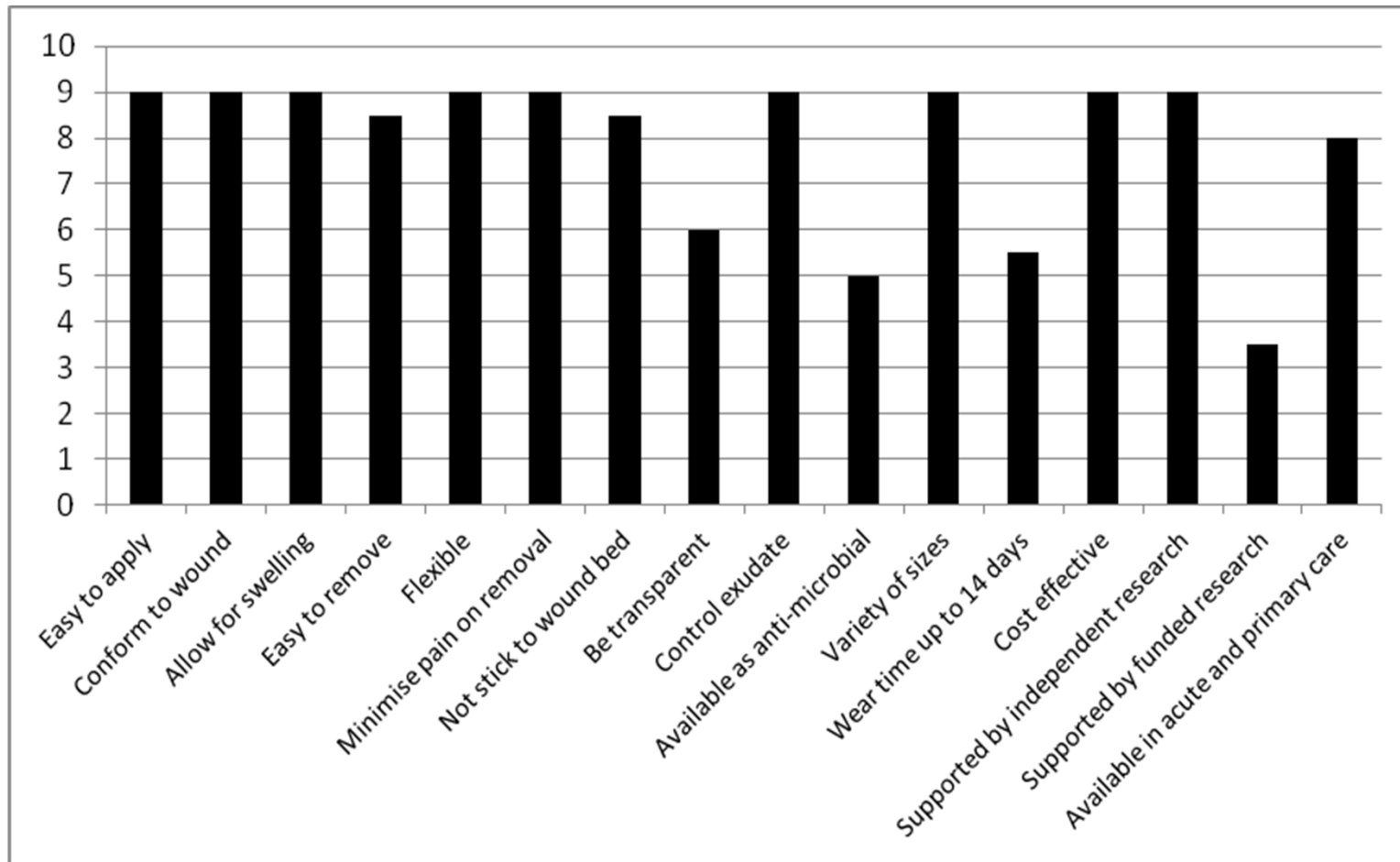


Choice of dressing during first dressing change

- ▶ 5 respondents – same dressing or a different dressing could be applied.
- ▶ 4 respondents – same dressing would be applied.
- ▶ 1 respondent – different dressing would be applied.
- ▶ 2 respondents did not provide a response to this question.

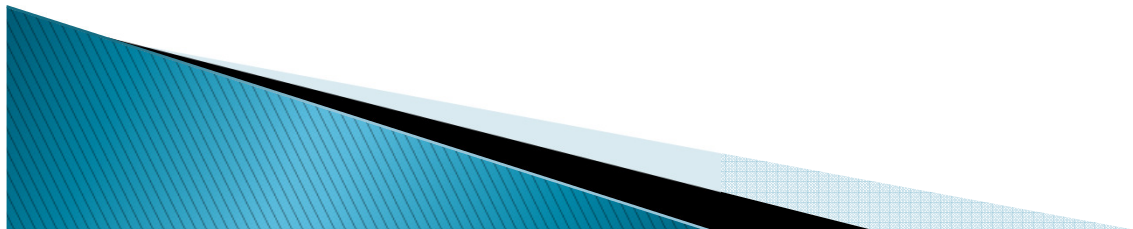


Summary of Scores



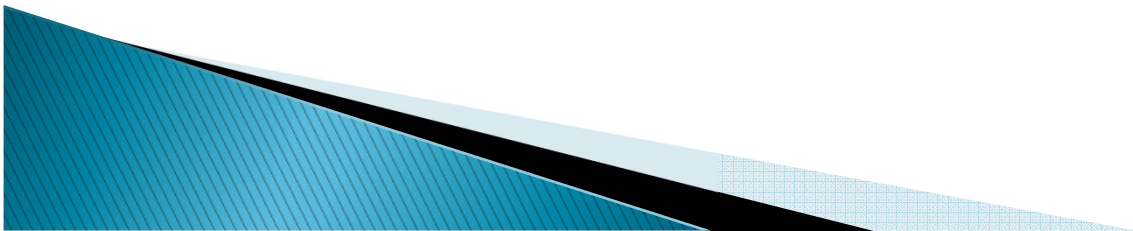
Conclusions from Delphi

1. The choice of post-operative wound dressing was the most important factor in the prevention of wound blister formation
2. Nursing staff should be the first to assess a wound post-operatively and to choose the appropriate wound dressing
3. The wound dressing should be left intact for as long as possible.
4. An ideal wound dressing to prevent wound blister formation should: conform to the wound, be easy to apply, allow for swelling, be easy to remove and minimise pain on removal



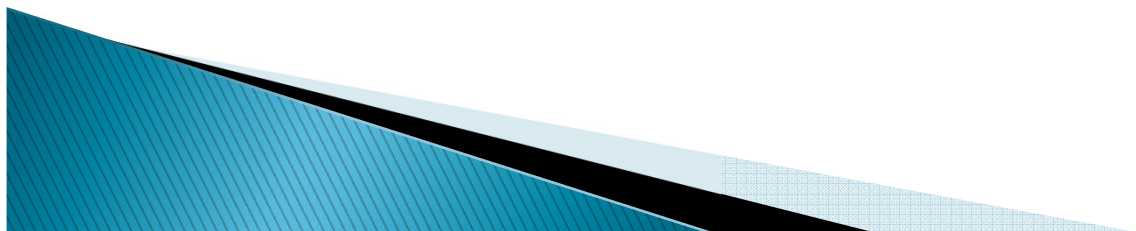
Full Results

- ▶ Ousey, K., Gillibrand, W., Stephenson, J.
Achieving international consensus for the prevention of orthopaedic wound blistering: results of a Delphi survey. International Wound Journal 2012; doi: 10.1111/j. 1742-481X.2012.00965x



The future

- ▶ Develop guidance for prevention of wound blisters in all surgery
- ▶ Investigation into 'resilience' for patients with acute wounds
- ▶ Development of a well being programme for patients with acute wounds



References

- ▶ Gupta SK, Lee S, Moseley L G (2002) Postoperative wound blistering: is there a link with dressing usage? *Journal of Wound Care* 11(7): 271–73
- ▶ Polatsch DB, Baskies MA, et al (2004) Tape blisters that develop after hip fracture surgery: a retrospective series and a review of the literature. *American Journal of Orthopaedics* 33(9): 452–6
- ▶ Jester, R., Russell, L., Fell, S. et al. A one hospital study of the effect of wound dressings and other related factors on skin blistering following total hip and knee arthroplasty. *J Orthopaedic Nurs* 2000; 4: 2, 71–77
- ▶ Tustanowski J (2009) Effect of dressing choice on outcomes after hip and knee arthroplasty: a literature review. *Journal of Wound Care*, 18, 11, 449–458

